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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,841	02/13/2001	Brian Wilk	42390P9993	2580

8791 7590 10/21/2003

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EXAMINER

NGUYEN, TUNG X

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/783,841

Applicant(s)

WILK, BRIAN

Examiner

Tung X Nguyen

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on the amendment filed on 8/4/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-10, 14-17 is/are rejected.
- 7) ☒ Claim(s) 4-6, 11-13 and 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. The amendment filed on 08/04/03 has been entered and made of record. Claims 1-20 are present for examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 7-10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Nam (u.s.p 5,850,148), in view of Deshayes (u.s.p 6,356,090).

As to claims 1-2, 8-9, Nam discloses in Fig. 4B, a probe pin array comprising: a housing (20, 20a) having a first surface (the top of 20) and second surface (the bottom of 20a); and a plurality of probe pins (19) extending between said housing first (the top of 20) and second surface (the bottom of 20a), wherein the plurality of probe pins extend substantially perpendicularly from said housing second surface (it is clear on the fig. 4b) and wherein said plurality of probe pins each further include a leading end having a taper; Nam does not disclose or suggest the taper between about 10 and 25 degrees. However, Deshayes discloses in Fig. 3a, a probe pin array having a very pointed end (col. 4, lines 4-6); it means that the probe pin appears to have the taper about between 10-25 degrees to achieve accurately signal from DUT and high quality contact to DUT. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the system of Nam, and provide a probe

having a very pointed tip between about 10-25 degrees, as taught by Deshayes to achieve accurately signal from DUT and high quality contact to DUT; Further, it would have been an obvious matter of design choice to taper the tip in this amount and get a high quality contact to DUT, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

As claims 3, 10, Nam discloses in col. 5, lines 12-14, a pin plated with gold.

As to claim 7, Nam discloses in Fig. 4B, the probe pin array comprising: a housing having a first surface (top of 20) and a second surface (bottom of 20a); a plurality of none-spring loaded probe pins (19) extending between said housing first surface and said housing said second surface, wherein said plurality of none-spring loaded probe pins extend substantially perpendicularly from said housing second surface (it is clear in Fig. 4B); and at least one alignment guide (18) extending from said housing second surface (20a) having at least one chamfered surface (see Examiner's label) oriented toward said plurality of none-spring probe pins (19).

4. Claim 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frederickson et al. (u.s.p 5,955,888), in view of Nam (u.s.p 5,850,148).

As to claim 14, Frederickson et al. disclose in Fig. 6B, the probe pin array comprising: a housing (650, 640, 646, 610) having a first surface (top 650) and a second surface (bottom 610); a carrier (670) having a first surface (bottom 670) and a second surface (top 670), wherein said carrier second surface abuts said housing first surface (via 690); a plurality of probe pins (620) extending between said carrier first

surface (bottom 670) and said housing second surface (bottom 650) and extending between said housing first surface (top 650) and said housing second surface (bottom 650), wherein said plurality of probe pins extend substantially perpendicularly from said housing second surface; and at least one alignment guide (680) extending from said housing second surface (bottom 650) having at least one chamfered surface (680) oriented toward said plurality of probe pins (Col. 7, lines 37-42). Frederickson et al. do not teach or suggest a plurality of none-spring loaded probe pins. However, Nam discloses in Fig. 4B, the plurality of probe pins are none-spring loaded probe pins. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the system of Frederickson et al., and provide a plurality of none-spring loaded probe pins, as taught by Nam for making good contact.

5. Claims 15-17, are rejected under 35 U.S.C. 103(a) as being unpatentable over Frederickson et al. (u.s.p 5,955,888), in view of Nam (u.s.p 5,850,148), and further in view of Deshayes.

As to claim 15-16, Frederickson et al., in view of Nam do not disclose, the taper between about 10 and 25 degrees. However, Deshayes discloses in Fig. 3a, a probe pin array having a very pointed end (col. 4, lines 4-6); it appears that the taper between about 10 and 25 degrees. Further, It would have been an obvious matter of design choice to get a high quality contact, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

As claim 17, Nam discloses in col. 5, lines 12-14, a pin plated with gold.

Allowable Subject Matter

6. Claims 4-6, 11, 12-13, 18, 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

As to claims 5-6, 12-13, 19-20, the prior art does not teach or suggest the alignment guide extending from the housing second surface having a chamfered surface with angle of between about 45-70 degrees from planar with the housing second surface. As to claims 4, 11, 18, the plurality of probe pins each having a diameter between about 30% and 60% of a diameter of a pin of a pin grid array microelectronic device to be inserted into a socket to be tested by the plurality of probe pins. In combination with the other claimed features.

Response to Arguments

8. Applicant's arguments filed 08/04/03 have been fully considered but they are not persuasive.

In re pages 7-9, to applicant argues that Nam and/or Deshayes patents does not teach or suggest a taper between 10 and 25 degrees.

In response, the examiner respectfully disagrees with Applicant about the issue for the following the reasons: Applicant does not prove different purposes between Nam and Deshayes' probe tip card device and applicant's probe pin array, since all the features recited in the probe tip card device and probe pin array have the same results

for testing or detecting IC chip. Even if the probe tip card device is different from the probe pin array device, then it is considered in view obvious. Also, the remarks argue that Nam and/or Deshayes do not teach a taper between 10 and 25 degrees. As stated in previous Office Action, Deshayes teaches a probe pin array having a very pointed end (col. 4, lines 4-6) is considered to be created an angle to achieve accurately signal from DUT and high quality contact to DUT (see Figs. 3). Deshayes does not teach a taper between 10 and 25 degrees. It would have been obvious to one ordinary skill in the art at the time the invention was made to combine probe tip card device of Nam and Deshayes with the taper's angle is between 10-25 degrees, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art, In re Aller, 105 USPQ 233.

However, Nam not only teaches each of plurality of probe pins (19) having a taper (Figs. 4B-4C), wherein the taper having a pointed angle (Fig. 4c), but also Deshayes discloses a probe pin card having a very pointed end (col. 4, lines 4-6) is considered to be created a pointed angle to achieve accurately signal from DUT and high quality contact to DUT.

In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. In re Nomiya, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make

the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. In re McLaughlin, 170 USPQ 209 (CCPA 1971) references are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. In re Bozek, 163 USPQ 545 (CCPA 1969). In this case, Nam's probe card device (Figs. 4b-4c, see the abstract), Deshayes's probe card (Fig. 3a, see the abstract), and Applicant's probe pin card for testing and detecting the electronic device.

In re papers 10-12, Applicant argues that Toby Frederickson et al and/or Nam do not teach plurality of non-spring loaded.

In response, the examiner respectfully disagrees with Applicant about the issue for the following the reasons: It is clearly shown the device having plurality of non-spring loaded on figure 4B.

Conclusion

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

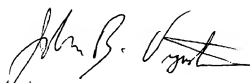
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X Nguyen whose telephone number is (703) 305-3337. The examiner can normally be reached on 8:30am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703)-308-1233. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TN
10/06/03


John B. Vigushin
Primary Examiner
Art 2827